

CLAIMS

1. A medical lead, comprising:

a lead body having an insulator and at least one conductor, wherein the insulator includes at least one welding region;

at least one conductive pad within the welding region, the conductive pad electrically connected to the conductor; and

the conductor.

2. A medical lead, as in Claim 1, wherein the welding region comprises a groove cut in the insulator.

3. A medical lead, as in Claim 2, wherein the groove runs parallel to the conductor.

4. A medical lead, as in Claim 1, wherein the conductive pad is electrically connected to the conductor using a method selected from the group consisting of welding, conductive adhesives, crimping.

5. A medical lead, as in Claim 1, wherein the conductive pad is composed of a metal selected from the group consisting of stainless steel, MP35N, platinum, gold, silver, copper and variadium.

6. A medical lead, as in Claim 1, wherein the band is selected from the group consisting of a band electrode, a band connector, and a sensor.

7. A medical lead, as in Claim 1, the band further comprising a plurality of projections on an inner wall of a lumen, wherein the projections space the inner wall from an outer surface of the lead body.

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8. A medical lead, as in Claim 7, wherein at least three projections are positioned around the inner wall to center the lead body within the lumen.

9. A medical lead, comprising:

a lead body having an insulator and at least one conductor, wherein the insulator includes at least one welding region;

electrically connected to the conductor within the welding region; and a band welded to the elongated conductive element to electrically connect the band to the conductor.

10. A medical lead, as in Claim 9, wherein the welding region comprises a groove cut in the insulator.

15 11. A medical lead, as in Claim 10, wherein the groove runs parallel to the conductor.

12. A medical lead, as in Claim 9, wherein the elongated conductive element is selected from the group consisting of wire, ribbon wire, and cable.

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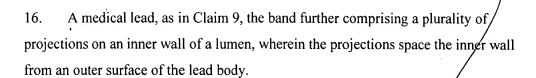
13. A medical lead, as in Claim 9, wherein the elongated conductive element is electrically connected to the conductor using a method selected from the group consisting of welding, crimping and conductive adhesives

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14. A medical lead, as in Claim 9, wherein the elongated conductive element is composed of a material selected from the group consisting of stainless steel, MP35N, platinum, gold, silver, copper and vanadium.

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15. A medical lead, as in Claim 9, wherein the band is selected from the group consisting of a band electrode, a band connector, and a sensor.



- 5 17. A medical lead, as in Claim 16, wherein at least three projections are positioned around the inner wall to center the lead body within the lumen.
 - 18. A method for manufacturing a medical lead, comprising:

 cutting a welding region in a lead body to expose a conductor;

 securing a conductive pad within the welding region adjacent the conductor; and

securing a band to the conductive pad to electrically connect the band to the conductor.

19. A method, as in Claim 18, wherein the welding region is cut with an excimer laser

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and

- 20. A method, as in Claim 18, wherein the conductive pad is secured within the welding region by a method selected from the group consisting of welding, crimping and adhesives.
- 21. A method, as in Claim 19, wherein the band is secured to the conductive pad by welding with a yttrium-arsenic-garnet laser.
- 25 22. A method for manufacturing a medical lead, comprising:

 cutting a welding region in a lead body to expose a conductor;

 electrically connecting a proximal end of an elongated conductive element to the conductor within the welding region;

/ positioning a band around the lead body and over the welding region;

electrically connecting a distal end of an elongated conductive element to the band.

23. A method, as in Claim 22, wherein the welding region is cut with an excimer laser.

24. A method, as in Claim 22, wherein the elongated conductive element is electrically connected within the welding region by welding.

- 23. A method, as in Claim 24, wherein the elongated conductive element is welded within the welding region with a yttrium-arsenic-garnet laser.
- 10 26. A method, as in Claim 22, wherein the elongated conductive element is electrically connected to the band by welding.
 - 27. A method, as in Claim 26, wherein the band is welded to the elongated conductive element with a yttrium-arsenic-garnet laser.

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28. A band for a medical lead, comprising a plurality of projections on an inner surface of a lumen to provide clearance between a lead body and the inner surface for passage of one of a conductive pad or an elongated conductive element during assembly.

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A band, as in Claim 28, comprising at least three projections circumferentially spaced around the inner surface of the lumen.

